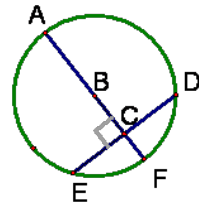


## 11.4 Arcs and Chords

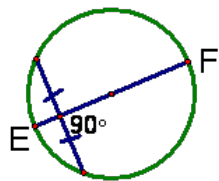
Theorem 11.4-If a diameter of a circle is perpendicular to a chord, then the diameter bisects the chord and its arc.

$$CE = CD$$

$$\widehat{EF} = \widehat{DF}$$

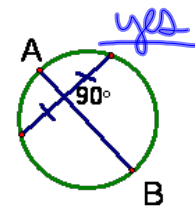
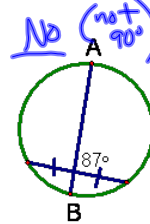


Theorem 11.5-If one chord is a perpendicular bisector of another chord, then the first chord is the diameter.

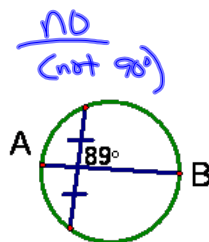
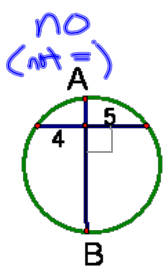


$\overline{EF}$  is the diameter

Is  $\overline{AB}$  a diameter?



Is  $\overline{AB}$  a diameter?

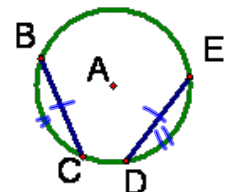


Theorem 11.6-in the same circle, or congruent circles:

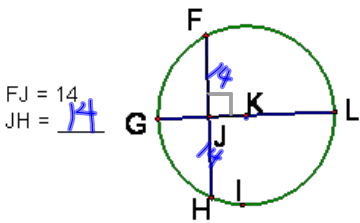
- Two chords are congruent if their minor arcs are congruent.
- Two minor arcs are congruent, if their chords are congruent.

If  $BC = DE$ ,

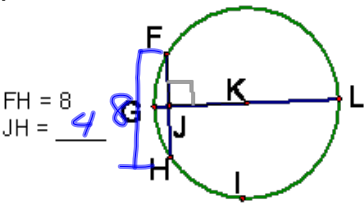
then  $\widehat{BC} = \widehat{ED}$



Examples:

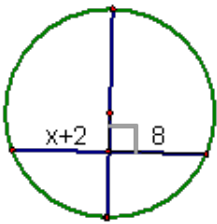


Examples:

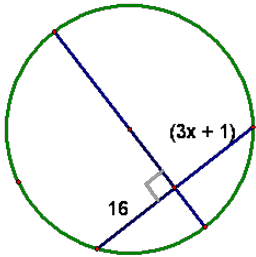


Examples:

$x = 6$   
 $x+2 = 8$

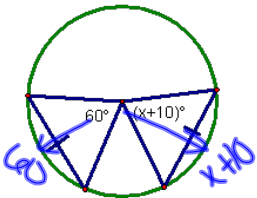


$x = 5$   
 $16 = 3x + 1$   
 $15 = 3x$   
 $5 = x$



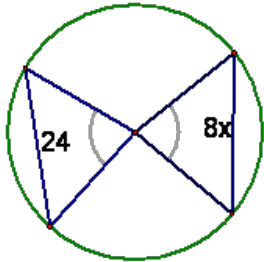
Examples:

$x = 50$



Examples:

$x = 3$



HW

p610-611

3-11, 15-18